Table 3-9. Explanation of Launch Trajectory Acquisition System 2400-b/sec Format*

Bit No.	Description
1-13	Satellite ID Code (binary)
14-17	Vehicle ID Code (binary)
18-26	Day of year (binary)
27-30	Format type (binary) = 0000 for LTAS
31-34	Time of Day - Tenths of seconds (binary - LSB = 0.1 sec)
35-51	Time of Day - Seconds (binary - LSB = 1.0 sec)
52-60	Site ID (refer to appendix C, table C-2)
61-87	E-position component (meters)
88	Sign for E (0 = positive) (1 = negative. When negative, bits 61-87 will be 2's complement.)
89-90	PSC (Position Scale Code) (Value by which all position components should be multiplied if the field length is exceeded.) 00 - x 1 01 - x 10 10 - x 10^3 11 - x 10^{10}
91-117	F-position component (meters)
118	Sign for F (0 = positive) (1 = negative. When negative, bits 91-117 will be 2's complement.)
119-120	VSC (Velocity Scale Code) (Value by which all velocity components should be multiplied if the field length is exceeded.) 00 - x 1 01 - x 10 (All other scales are invalid)
121-147	G-position component (meters)

*30 bits = 1 word; bit No. 1 = first bit transmitted.

Table 3-9. Explanation of Launch Trajectory Inputs
2400-b/sec Format* (cont)

Bit No.	Description
148	Sign for G (0 = positive) (1 = negative. When negative, bits 121-147 will be 2's complement.)
149	Optical Track Bit (OTB) (always = 0)
150	PTF (Plus Time Flag) (1 = using plus time)
151-164	F-velocity component (meters/second)
165	Sign for F 0 = positive (1 = negative. When negative, bits 151-164 will be 2's complement.)
166-179	E-velocity component (meters/second)
180	Sign for E 0 = positive (1 = negative. When negative, bits 166-179 will be 2's complement.)
181	L liftoff 1 = liftoff has occurred
182	P plunge mode 1 = plunge
183-184	P/W (Pulse Width) 00 - 1.0 μsec 01 - 2.4 μsec 10 - 5.0 μsec 11 - 10.0 μsec
185	RI (Refraction correction) (0 = out)(1 = in)
186	DI (Droop) (0 = out) (1 = in)
187	PO (Paramp) (0 = off) (1 = on)
188	RO (Radiation) (0 = off) (1 = on)
189	LO (0 = Single LO) (1 = Dual LO)
190	B/S (Beacon/Skin) (0 = skin) (1 = beacon)
191	T (Track bit) (0 = off) (1 = on)
192	Q (Quality bit) (0 = bad) (1 = good)

*30 bits = 1 word; bit No. 1 = first bit transmitted.

Table 3-9. Explanation of Launch Trajectory Acquisition System 2400-b/sec Format* (cont)

Bit No.	Description
193-195	Mode (Bit No. 193 194 195) 0 0 0 = manual 1 0 0 = autotrack 0 1 0 = computer drive 1 1 0 = on-axis orbital 0 0 1 = on-axis powered flight 1 0 1 = on-axis coast 0 1 1 = autotrack coast
196-209	G-velocity component (meters/second)
210	Sign for G (0 = positive) (1 = negative. When negative bits 196-209 will be 2's complement.)
211-217	Checksum (see note)
218-224	Spares
225-240	Sync bits. Bits 225-240 will have the following patterns: 0-0-0-1-1-0-1-0-0-0-0-1-1-0-1-0 on one message and 0-0-0-1-1-0-1-0-0-0-0-0-0-1-0-1 on the next. Note LTAS 2400-b/sec checksum algorithm: 1. The first 210 data bits are treated as fourteen words of 15 bits each. These words are summed, treating them as positive integers, in an accumulator capable of handling a 19-bit positive integer sum. 2. This sum is split up into three parts: the most significant 7 bits, the next most significant 6 bits, and the least significant 6 bits, and these three words are summed, treating them as positive integers, in an accumulator capable of handling an 8-bit positive integer sum. 3. The least significant 7 bits of these sums become the checksum.

* 30 bits = 1 word; bit No. 1 = first bit transmitted.